

OUTLINE
OF STANDARDIZATION PROBLEMES RELATING TO PLASTICS
IN POLAND

1. Polski Komitet Normalizacyjny /PKN - Polish Standards Committee/

1.1. Foundation of PKN and the history of its development

Standardization in Poland was begun at the beginning of this century. The first standardization works were carried out in a field of elektrotechnics by organized teams of electrical specialists from several cities and in mechanics in several more important factories of the machine industry.

Standardization experiences of the I-st World War, development of industries and the apparent profits of manufacturers /using standards/ as also the initiative of industrial and technical specialists resulted in the foundation on July 12-th, 1923 /as a resolution of the Council of Ministers/ of a Technical Committee which a year later /1-st October, 1924/ was transformed into the Polish Standards Committee. Standardization of industrial products and conditions of delivery then constituted the first activity of the Committee. The Committee was attached to the Ministry of Industry and Trade and operated as an advisory institution for all the ministries.

The Second World interrupted the normal work of PKN, but standardization activity during the occupation did not cease. A group of former PKN staff-members, who realized the significance of standardization for restoration of their country, continued standardization activity during the period of resistance; this related to the building industry, tools, aviation and workshop technics.

At the same time all possible efforts have been made to save the prewar achievements of PKN and consequently it was possible to reactivate the Polish Standards Committee immediately after the last war ended.

At the beginning of 1945 standardization activity in Poland was officially revived by the appointment of the Building Industry Standardization Commission under the Ministry of Reconstruction. On April 12-th, 1945 due to a resolution of the Council of Ministries the Polish Standards Committee was

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reestablished and its activities comprised all problems of standardization in Poland.

1.2. Present organization of PKN, its character and operation

The Polish Standards Committee was gradually reorganized in accordance with changes which took place on the Polish Economy during the post-war period. The character of PKN is now that of a State Office directly under the Prime Minister, it has also however the character of a scientific institution because of its scope and methods of work.

The activities of PKN before all include : guidance of standardization, its coordination, elaborating organizational principles for standardization establishments of state standards, control of applying standards and international cooperation in the field of standardization.

In addition the Polish Standards Committee prepares basic standards such as terminological and classification standards. In order to fulfil this task PKN bases its work on Working Groups consisting of outstanding specialists and representatives of science and technics.

The Standardization Council preparing the guiding principles of standardization acts at the President of PKN Office. The Council consists of outstanding scientific specialists, representatives of the state administration and practice.. The above mentioned Council is made up of Sections each devoted to special problems. There is also a Council of Standardization Division Chiefs acting as an advisory body for discussing internal problems of the Committee and for establishing its official opinions.

All centers of the national economy interested in standardization such as industrial enterprises, designing and constructional bureaus research and scientific institutes, central laboratories etc., are obliged to carry out standardization activities. These units prepare standards for their own use and for subordinate /internal standards/ or elaborate state

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draft standards.

Some of the research and scientific institutes, constructional bureaus and Central Industry Managements approved as Standardization Centers supervise standardization in definite fields of technics, co-operating closely with PKN.

The Standardization Commissions /Committees/ have been organized in Polish Standards Committee and at the Standardization Centers, to assure the influence of all users of Polish Standards on the preparation of draft standards. Activities of the Standardization Commissions comprise : determining the subject of standards, estimation of standardization plans, establishing the basic principles of standards, analyses of standards and even elaboration of draft standards.

Membership of the Commission /Committee/ warrents universality /representation of all interested parties/, objectiveness and a high professional level of opinions. The Commission /Committee/ consists of outstanding specialists, representing science from a technical and economical aspect, practical experience, acquainted with the needs and possibilities of manufacture, with the requirements of users, representing institutions and having a thorough knowledge of standardization.

Staff-members of the Polish Standards Committee take a direct part in the mentioned standardization activities, carry out preparation of standards, control specific requirement of draft standards and their conformity with the requirements of interested parties, further they verify uniformity of the editorial and graphical form of standards and mutual conformance between standards.

2. Organization of standardization of plastics

2.1. The Plastics standardization center in the Central Management of the Plastics and Varnish Industry.

The organization of work and the preparation of draft standards relating to plastics belong to the activities of the

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standardization center, which is the Central Management of the Plastics and Varnish Industry. This institution employs many plastics specialists, has a constant contact with plastics manufactures and has a scientific - research outpost - the institute of Plastics. The institution, as the standardization center, prepares subject standards, while the Institute of Plastics prepares standards on methods of testing. A standardization Committee /Commission/ exist at the above mentioned institution.

2.2. The Institute of Plastics - scope and organization of standardization activities.

The Institute of Plastics cooperates with the standardization center for plastics /Central Management of Plastics and Varnish Industry/ in the preparation of standards /chiefly standard on methods of testing/.

The Institute is a scientific - research center devoted to production methods of processing, and to estimating the quality of plastics.

The Institute, in technically and economically founded cases, applies the results of its operations to standardization planning, and participates in the preparation of draft standards.

3. The legal character of standards in Poland

According to the range of obligation the following types of standards can be distinguished: state standards /Polskie Normy - Polish Standards/, ministerial and factory standards /internal standards/. State standards are obligatory under penalty on the basis of general legal acts /in practice the penalty is not enforced/. The range of obligation of internal standards /ministerial standards/ is established in each case for subordinate units by the interested minister. The scope of obligation of factory standards is established under official responsibility by the manager of the factory, or the general director of the interested Central Management.

The scope of application of standards depends upon the subject of the standard. Typical scopes of obligation are as follows: in production, in trade, in designing, in construction, in job performance, in technological processes, principles and classification of markings, marking and use of conceptions and symbols, methods of tasting, customer and arbitration testings.

Export standards are obligatory unless a customer establishes his own requirements.

A permission of partial or total deviation from a state standard can be granted by the minister with the consent of the President of PKN and other interested ministers. Such a permission determinates the requirements used instead of those given in the standard; this permission also gives the date of its validity. Permission of deviation from a standard must be backed by an important economical reason. Deviations from internal and factory standards are granted by the interested minister.

Current control of applying standards is carried out in industry by the technical control service of the producer and relates to ready products as well as stages of their production. Moreover random control is carried out by the standardization service of the industrial administration. The Polish Standards Committee also carries out, if necessary, control of applying standards.

There is a lack of general rules in Poland relating to marking of standardized products, nevertheless some standards give marking rules for marking the products as such or for their packing. The full trade mark of a products consists of its abbreviation, size and type given in the standard, and number of the standard. Such marking is applied in orders, materials specifications, technical documents etc.

Marking of products is given in standards only when absolutely necessary. Marking consists of size and standard number, and sometime consists only of the symbol "PN" /Polish Standard/.

Moreover some standards include a requirement relating to a trade mark consisting of the manufacturer's name; material and other necessary details necessary for the exact identification of a given product.

4. Preparation of standards

An object, which is to be standardized, must be included in the standardization plan. This plan is prepared by Polish Standards Committee in conjunction with such institutions as: Ministries, Central Industry Managements, Scientific - research Institutes, Constructional Bureaus and more important industrial enterprises.

The subject matter of the standardization plan, as also determining which institutions are obliged to prepare the draft standard, is consulted with all interested parties.

Preparation of state standards is illustrated by the enclosed diagram.

4.1. Preparation of a draft standard in a standardization Center

The first step in preparing a draft standard consists of selecting an author or a team of authors, for preparing the draft; this is done in agreement with the interested Committee of a given standardization Center.

The standardization Committee establishes the principles for the draft standard. The Committee can entrust the preparation of such principles to the author /team of authors/, however such principles must be collegiately established.

These principles must be approved by other interested institutions and by the initiator of a draft standard, in case of a draft state standard also by the Polish Standards Committee.

A team of authors prepares a first draft standard on the basis of the approved principles, available materials and experience of the authors. The draft is then submitted to the standardization Committee.

The draft standard is discussed at a meeting of the stan-

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standardization Committee of the given Center in presence of the author. After the Committee accepts the draft standard, is ready for balloting. The ballot is carried out by the standardization office of the Center. The draft standard is sent to all interested parties, mentioned in the principles, such as: manufacturers of the standardized subject, its users, scientific workers and institutions supervising the corresponding fields of economy.

The Committee discusses the remarks received, and if acceptable, corrections are made in the draft, and conformance of the draft standard with the requirements of the interested parties acknowledged. If necessary the standardization office of the Center organizes a conference in order to reach agreement. At this conference all interested parties participate for final approval of the draft standard. As a rule the conference reaches an agreement, objections being accepted by all the members of the conference or withdrawn by those objecting. The draft standard may not be accepted by the conference, and returned to the author/or team of authors /for reconsideration. In this case a new version of the draft standard must be balloted, and a new agreement reached. The standardization Center then prepares a final form of the standard for publication, and its characteristic also collecting and classifying all documents relating to the draft standard.

The final version of a draft standard with its characteristic is submitted for acceptance by the standardization Commission. The accepted draft standard is transferred by the standardization Center to the Ministry of Chemical Industry. The complete documentation consisting of ballot documents, documents relating to preparation of the draft, and conference records are transferred together with draft standard.

After acceptance of the draft standard by the Ministry it is submitted/in two copies/ to the Polish Standards Committee with a proposal for establishing it as a state standard.

4.2. Preparation of a draft standard in the Institute of Plastics.

Draft standards prepared in the Institute of Plastics relate to standards on methods of testing. Preparation is similar as in the standardization Center, but elaborating a draft standard is based on experimental results. A draft standard is transferred from the Institute to the Ministry through the standardization Center after an agreement on the draft is reached and after acceptance by the standardization Commission.

4.3. Preparation of a draft standard in the Polish Standards Committee.

The draft standards, which are planned to be prepared in the Polish Standards Committee, are elaborated by Working Groups organized by PKN. Preparation of the first draft by a Working Group is the same as described in chapter 2.1.

4.4. Establishment of state standards.

All draft standards, prepared by a standardization Center, by the Institute of Plastics or by a PKN Working Group, are analyzed by the Chemistry Division of Polish Standards Committee. This analysis relates to:

- a/ subject content of the standard i.e: verification of specific requirements and their adaptability, comparison of draft standard with ISO recommendations/estimation of differences/ and in some cases - estimation of consequences of applying the standard, etc.;
- b/ formal preparation i.e. verification of documents, basis of requirements, agreement of all interested parties, etc.

The Chemistry Division of PKN prepares the editorial form of the standard which must conform with standards regulating the editorial and graphical forms.

The Technical Department of PKN verifies uniformity of draft standards. The main purpose of this control is mutual

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conformance between standards. The Legal and Organizational Department of PKN controls conformance of standards with existing legal acts. Changes in standards made by PKN are conformed by means of a ballot, sent to the interested ministries. Final conformance of the standard takes place at a Conference of official ministerial representatives. At this conference the scope is determined and the date of introducing the standard.

If an agreement can not be reached at the conference, the final decision belongs to the President of PKN, who - if necessary - consults with the Standardization Council.

State standards are established by the President of PKN, announcement of which appears in "Monitor Polski" /official publication/.

4.5. Revision of standards is carried out along the same course as preparation of a new standard, but data and experience acquired from the application of the previous standard are applied in revision.

4.6. Publication and distribution of standards.

Information on newly established state standards, revised standards, canceled standards etc. are published in the PKN Bulletin/ official publication of PKN/. Printing and distribution of standards is carried out by the state publishing enterprise "Wydawnictwa Normalizacyjne " supervised by the President of PKN. All standards or standards relating to the defined fields can be subscribed, individual copies are also on sale.

Internal standards are published by the ministries and are available to the public.

5. Financing standardization activities.

Operations of the Polish Standards Committee are totally based on the state budget. Funds for authors fees, Commissions working for the PKN, are included in the total sums designated for the Polish Standards Committee.

The cost of draft standards in industrial organizations are covered by funds of the interested industry in accordance with the financing system of the institution carrying out standardization activities; these activities are financed from the state budget, or from institutional funds.

Financing of standardization includes all costs of standardization such as: research work connected with the preparation of a draft standard, elaboration of standards, translation of standards, cost of Commission meetings, standardization papers, reviews, standardization training courses and other costs connected with the preparation, publishing and purchasing of standards, standardization publications, standardization literature, costs of field trips in connection with standardization activities and control of applying standards.

Fees for the preparation of draft standards depend upon the difficulty of the standards subject content, number of authors in a team/~~the team can consist~~ of 1 to 5 specialists/ and upon the number of pages. In special cases the number of hours used for the preparation of a draft standard are taken as a base for payment.

6. Standardization propaganda

One of the aims of the PKN is propaganda of standardization. The following forms of such publicity are used:

- a/ standardization publications,
- b/ standardization training courses,
- c/ participation in exhibition and fairs etc.

6.1. Publications

The Polish Standards Committee publishes catalogue of standards, the periodical "Normalizacja" /scientific-technical periodical/ and "Biuletyn PKN"/ official organ of PKN/. Through the "Wydawnictwa Normalizacyjne" PKN also publishes various standardization pamphlets and scripts for standardization training courses chiefly devoted to the technics and orga-

nization of standardization activities.

6.2. Standardization training courses for standardization specialists.

The Polish Standards Committee organizes standardization training courses several times a year for technicians and engineers working in industry. Students of such courses became acquainted with standardization activities and are prepared for supervising standardization centers in the industry. The courses consist of lectures and practical exercises devoted to the preparation of standards.

6.3. Participation in fairs.

PKN has been participating for last three years in annually organized fairs in Poznań. The participation of PKN in the fairs comprises: exhibition, illustrating achievements and advantages caused by standardization/each year exhibition is devoted to various branches of economy /and standardization information stand, where a full set of Polish Standards is available and where one can purchase some of these standards. During a time of the fairs information action and lectures are carried out.

Preparation of a state standard

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| Elaboration of principles and draft standard | Standardization Commission | | | |
| | Central Management of Plastics and Varnish Industry /Standardization Center/ | | | |
| Ballot | Industrial enterprises | Users | Scientific institutions | |
| | | | | Conference |
| Agreement of all interested parties | | | | Central Management of Plastics and Varnish Industry /Standardization Center/ |
| Preparation of final draft standard | | | | Standardization Commission |
| Acceptance of draft standard | | | | Ministry of Chemical Industry |
| Control of draft standard | | | | Polish Standards Committee |
| Analysis of draft standard. Final agreement of all interested ministries | | | | |
| Establishment of standard | | | | Polish Standard |
| | | | | PN |